

WHAT IS CLAIMED IS:

1. A data recorder for writing data to a recording medium, the data recorder comprising:

5 a buffer memory for temporarily storing data before the data is written to the recording medium;

10 a buffer underrun determination circuit connected to the buffer memory, for deciding whether the buffer memory is in a state in which a buffer underrun will occur and whether the buffer memory is in a state in which a buffer underrun will no longer occur; and

15 a recording controller connected to the buffer memory and the buffer underrun determination circuit, wherein the recording controller controls interruption and restart of data writing based on the determination of the buffer underrun determination circuit, wherein the recording controller includes:

20 an encoder connected to the buffer memory, for encoding data which is read data from the buffer memory to generate recording data;

25 a clock generator connected to the encoder, for generating a system clock and providing the system clock to the encoder to operate the encoder;

30 a decoder connected to the clock generator, for decoding the data written on the recording medium to generate decoded data; and

35 a system control circuit connected to the encoder, the clock generator, and the decoder, for deciding whether the encoding of the encoder and the decoding of the decoder are synchronized and starting to write the recording data to the recording medium from the encoder when the encoding of the encoder and the decoding of the decoder are synchronized.

subsequent to the interruption of the recording of data,

5 wherein, the clock generator suspends to provide the system clock to the encoder until the decoding catches up with the encoding, when the decoding of the decoder is delayed from the encoding of the encoder.

10 2. The data recorder according to claim 1, wherein the clock generator generates a first system clock in accordance with the decoding of the decoder, generates a second system clock based on a reference clock having a predetermined frequency, provides the first system clock to the encoder until the encoding of the encoder and the decoding of the decoder are synchronized, and provides the second system clock to the encoder after the encoding and the decoding are synchronized.

15 20 3. The data recorder according to claim 2, wherein the decoder generates a pit clock based on the decoded data, and the clock generator generates the first system clock based on the pit clock.

25 4. The data recorder according to claim 3, wherein the clock generator includes a phase-locked loop (PLL) circuit connected to the decoder, wherein the PLL circuit generates the first system clock and the second system clock and selectively outputs the first and second system clocks.

30 5. The data recorder according to claim 3, wherein the clock generator includes:

a first PLL circuit connected to the decoder to generate a first system clock;

a second PLL circuit for generating a second system clock based on a reference clock; and

a clock control circuit connected to the first and second PLL circuits, wherein the clock control circuit selectively provides the first and second system clocks to the encoder.

6. The data recorder according to claim 5, further comprising:

a recording unit connected to the encoder to write the recording data to the recording medium; and

a reading unit connected to the decoder to read the data written on the recording medium and generate read data.

7. A method for writing data on a recording medium, the method comprising:

encoding data to generate first encoded data;
writing the first encoded data to the recording
medium;

reproducing the data written to the recording medium to generate reproduction data when the writing of data is interrupted;

encoding data corresponding to the data written on the recording medium to generate second encoded data;

suspending the generation of the second encoded data when the reproduction data is delayed from the second encoded data;

restarting the generation of the second encoded data when the reproduction data catches up with the second encoded data, and

restarting the recording of data when the reproduction data and the second encoded data are synchronized.

8. A method for controlling interruption and restart of writing data to a recording medium, wherein the data is stored in a buffer memory, the method comprising:

5 generating reproduction data when the writing of data to the recording medium is interrupted by sequentially reading the data recorded on the recording medium prior to the writing interruption;

10 generating recording data when the recording of data to the recording medium is interrupted by sequentially reading the data stored in the buffer memory;

15 suspending the generation of the recording data when the reproduction data is delayed from the recording data;

20 restarting the generation of the recording data when the delayed reproduction data catches up with the recording data; and

25 restarting the recording of data when the reproduction data and the recording data are synchronized.